Output tables for 1xN statistical comparisons.

December 17, 2022

1 Average rankings of Quade test

Average ranks obtained by each method in the Quade test.

Algorithm	Ranking
MEABC	6.6092
ABCADE	3.9195
ABCNG	5.5678
SHADE	2.3115
MAPSO	3.9678
TAPSO	4
MEEABC	1.6241

Table 1: Average Rankings of the algorithms (Quade)

Quade statistic (distributed according to F-distribution with 6 and 168 degrees of freedom): 26.26658. P-value computed by Quade Test: 0.

2 Post hoc comparison (Quade)

P-values obtained in by applying post hoc methods over the results of Quade procedure.

i	algorithm	$z = (R_0 - R_i)/SE$	p	Holm Hochberg Hommel	Holland	Rom
6	MEABC	4.43068	0.000009	0.008333	0.008512	0.008764
5	ABCNG	3.50511	0.000456	0.01	0.010206	0.010515
4	TAPSO	2.111648	0.034717	0.0125	0.012741	0.013109
3	MAPSO	2.083043	0.037247	0.016667	0.016952	0.016667
2	ABCADE	2.040136	0.041337	0.025	0.025321	0.025
1	SHADE	0.610917	0.541255	0.05	0.05	0.05

Table 2: Post Hoc comparison Table for $\alpha = 0.05$ (Quade)

Bonferroni-Dunn's procedure rejects those hypotheses that have an unadjusted p-value ≤ 0.008333.
Holm's procedure rejects those hypotheses that have an unadjusted p-value ≤ 0.0125.
Hochberg's procedure rejects those hypotheses that have an unadjusted p-value ≤ 0.01.
Hommel's procedure rejects those hypotheses that have an unadjusted p-value ≤ 0.0125.
Holland's procedure rejects those hypotheses that have an unadjusted p-value ≤ 0.012741.
Rom's procedure rejects those hypotheses that have an unadjusted p-value ≤ 0.010515.

3 Adjusted P-Values (Quade)

Adjusted P-values obtained through the application of the post hoc methods (Quade).

i	algorithm	unadjusted p	p_{Bonf}	p_{Holm}	$p_{Hochberg}$	p_{Hommel}
1	MEABC	0.000009	0.000056	0.000056	0.000056	0.000056
2	ABCNG	0.000456	0.002739	0.002282	0.002282	0.002282
3	TAPSO	0.034717	0.2083	0.138867	0.082674	0.069433
4	MAPSO	0.037247	0.223484	0.138867	0.082674	0.074495
5	ABCADE	0.041337	0.248021	0.138867	0.082674	0.082674
6	SHADE	0.541255	3.247527	0.541255	0.541255	0.541255

Table 3: Adjusted p-values (QUADE) (I)

i	algorithm	unadjusted p	$p_{Holland}$	p_{Rom}
1	MEABC	0.000009	0.000056	0.000054
2	ABCNG	0.000456	0.00228	0.00217
3	TAPSO	0.034717	0.131801	0.082674
4	MAPSO	0.037247	0.131801	0.082674
5	ABCADE	0.041337	0.131801	0.082674
6	SHADE	0.541255	0.541255	0.541255

Table 4: Adjusted p-values (QUADE) (II)